

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application. Please amend the claims as indicated below.

Listing of Claims:

Claim 1. (Presently Amended) Measuring tool for measuring magnetic properties of a magnetic sample in a closed loop, comprising

- an electromagnet in a closed loop arrangement ~~with~~ including two pole pieces connected to a yoke said pole pieces forming a gap for ~~the~~ placement of the sample,
- a search coil for ~~the~~ measurement of a flux density B of the sample and
- a magnetic field sensor for ~~the~~ measurement of a magnetic field strength H in the gap between said pole pieces,

characterized in that

the pole pieces comprise heater elements for heating the pole pieces to high temperatures of at least 450° C, the pole pieces are thermally insulated against the yoke of the electromagnet, and the pole pieces, the search coil and the magnetic field sensor are made of materials which resist said high temperatures.

Claim 2. (Previously Amended) A measuring tool according to claim 1,
characterized in that

the search coil is made using thick-film technology.

Claim 3. (Presently Amended) A measuring tool according to claim 2,
characterized in that

the search coil is made of two concentric flat coil elements of equal turn areas arranged one above the other and separated by an insulating layer having a via through which the two concentric flat coil elements are connected.

Claim 4. (Previously Amended) A measuring tool according to claim 1,
characterized in that

the magnetic field sensor is a flat coil.

Claim 5. (Previously Amended) A measuring tool according to claim 4,
characterized in that
the coil of the magnetic field sensor is made using thick-film technology.

Claim 6. (Presently Amended) A measuring tool according to claim 5,
characterized in that
the magnetic field sensor includes a coil, and the coil of the magnetic field sensor and
the search coil are arranged on a common substrate.

Claim 7. (Presently Amended) A measuring tool according to claim 1,
characterized in that
each of the pole pieces ~~(3) consist of~~ comprises a base piece ~~(11)~~ for the connection to
the yoke ~~(2)~~, a pole piece body ~~(12)~~ forming the closed magnetic circuit with the sample
~~(5)~~, an insulating layer ~~(13)~~ between the base piece ~~(11)~~ and the pole piece body ~~(12)~~
for a reduction of heat losses and at least one heater element ~~(8)~~ integrated in the pole
piece body ~~(12)~~.

Claim 8. (Presently Amended) A measuring tool according to claim 7,
characterized in that
the base piece and the pole piece body have a circular cross section ~~round~~ and are
machined from pure iron.

Claim 9. (Presently Amended) A measuring tool according to claim 7,
characterized in that
the insulating layer ~~is made of~~ comprises a material which is mica based and has a
density of about 2.2 kg/dm³ and a thermal conductivity of about 0.26 W/mK.

Claim 10. (Presently Amended) A measuring tool according to claim 9,
characterized in that
the insulating layer ~~(13)~~ has lateral dimensions of 100 x 200 mm and is 6-mm thick.

Reply to Office Action of September 6, 2007

AMENDMENTS TO DRAWINGS:

Concurrently filed herewith is a set of replacement sheets to be substituted for the drawings currently on file.